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April 2, 2002

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APR 02 2002

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Ex Parte Presentation in IB Docket No. 01-96

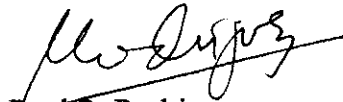
Dear Mr. Caton:

Pursuant to Section 1.1206 of the Commission's Rules, 47 C.F.R. § 1.1206, this letter serves as notice that on April 1, 2002, David Castiel and Gerald Helman of Virtual Geosatellite, LLC ("Virtual Geosatellite"), and undersigned counsel, met with Commissioner Martin and Sam Feder, his legal advisor, concerning the above-referenced proceeding.

Virtual Geosatellite's representatives presented the enclosed briefing regarding the Virtual Geosatellite satellite system and discussed these as well as other issues of record in the ongoing referenced proceeding.

The original and one copy of this letter are submitted for inclusion in the record of the referenced proceeding.

Sincerely,



Raul R. Rodriguez
Counsel to Virtual Geosatellite, LLC

RRR:rjc
Enclosure

cc (w/ encl. by e-mail): Mr. Sam Feder

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Virtual Geostationary Orbit:

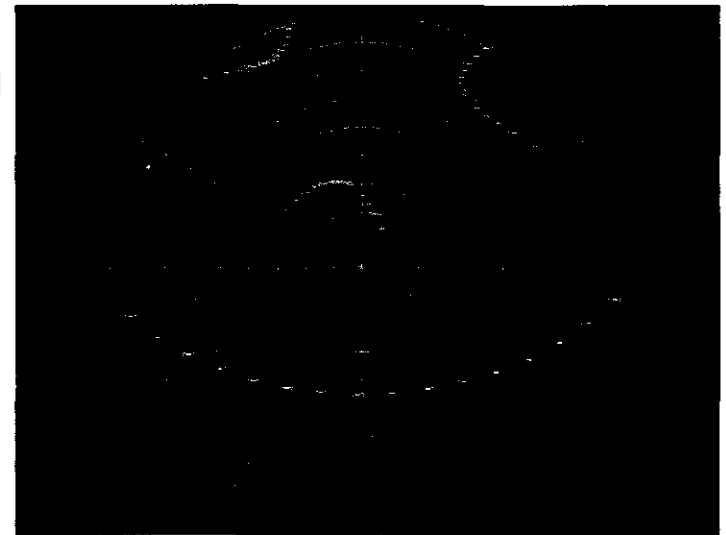
Protecting Spectrum for Future NGSO Systems

**Briefing to Commissioner Martin
April 1, 2002**

Virtual Geostationary Orbit (VGSO)

Advantages

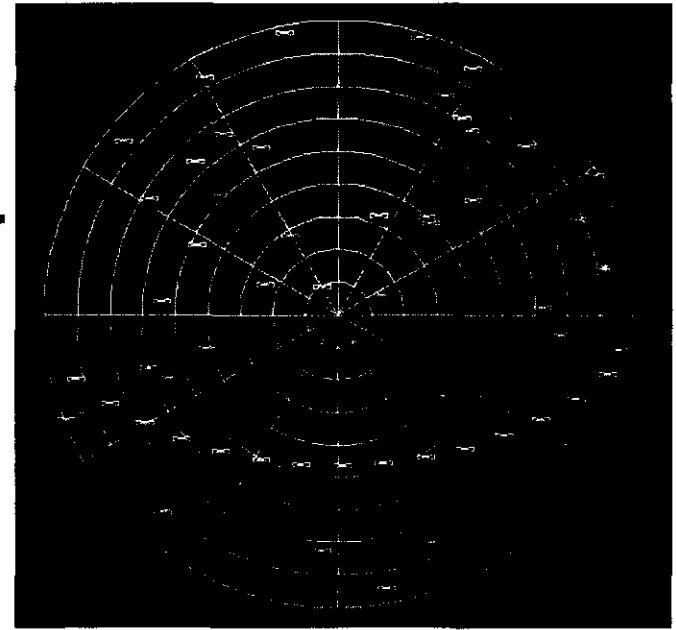
- **Permits new slotting opportunities comparable to GSO without in-line events**
 - Equivalent in number
 - Without mutual interference or interference to GSO
- **Emulates GSO characteristics**
- **Enables GSO-like coordination**
 - Obviates need to coordinate disruption
 - Obviates tracking each other's orbits and maneuvers
- **Facilitates multiple entry and future entry**



VGSOs

VGSO's Advantages are Unique among NGSOs

- **No active arc crossings**
 - Enables packing without gaps
- **Virtual Geostationary behavior**
 - Very long loiter times
 - *Those chosen by operator*
- **Unequaled GSO protection**
 - Separation > than 40°
- **Simplified tracking**
 - All satellites follow the same sky track
- **Adding new systems to unfilled slots does not add interference events**
 - Far more frequency reuse possible than with other NGSO proposals



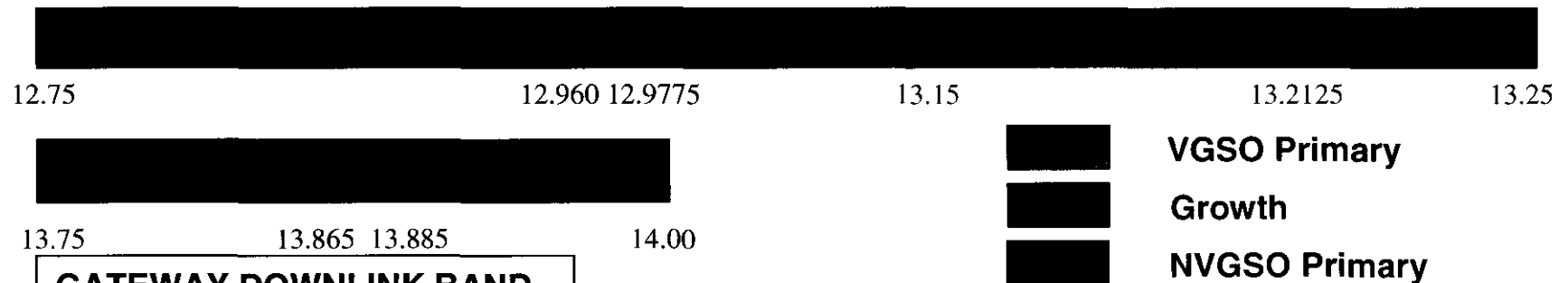
NVGSOs

Protecting The Opportunity

- **Blend Alternatives 3 and 4**
 - All System built for and may use all spectrum
 - All systems revert to 1/2 spectrum during in-line event (ILE)
 - VGSOs always revert to same fixed half of spectrum during ILE
 - *VGSOs primary in that half*
 - *Share using mandated slotting plan*
 - *Other NGSOs permitted secondary access there*
 - Non-VGSOs (NVGSOs) always revert to other half of spectrum during ILE w/ VGSO
 - *NVGSOs primary there*
 - *VGSO systems permitted secondary access there*
 - In-line events between NVGSOs
 - *Spectrum half assignments per pair-wise coordination*

NGSO Ku-Band Frequency Use (Proposed)

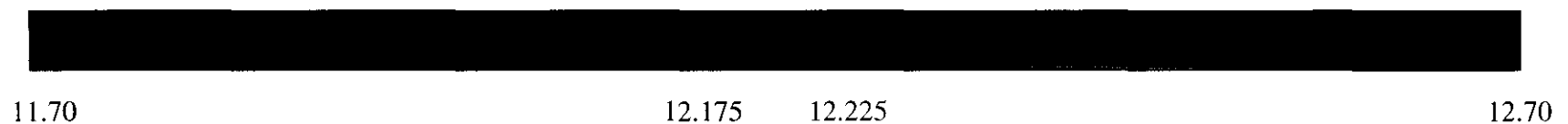
GATEWAY UPLINK BANDS



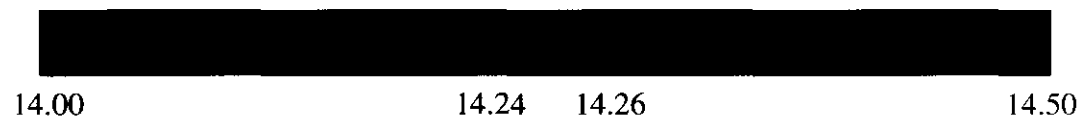
GATEWAY DOWNLINK BAND



USER DOWNLINK BAND



USER UPLINK BAND



Coordination in Blended 3/4

- **Use spectrum reversion trigger rules as proposed by Skybridge**
 - Not needed among VGSO systems
 - VGSO Coordination by GSO-like slot and angle management
- **NVGSOs may use any Alternative 3 mitigation strategy they have proposed to avoid VGSO or each other**
 - Half spectrum
 - Diversity

Triple Coincidence

- **Very low likelihood**
- **Not addressed by recent discussions on Alternative 3**
- **Possible Solutions to three-way interference**
 - Further spectrum division
 - Diversity
 - Buffering, coding, or
 - Accepted
- **Given low probability, latter three options preferred**

Advantages of This Proposal

- Preserves best of Alternatives 3 and 4
- Facilitates further NGSO licensing into VGSO slots
- Makes maximum use of available spectrum
- Gives a home for future worldwide VGSO growth
 - Preserves opportunity for significant worldwide slot expansion
 - Provides “equitable access” opportunities for developing countries